

ABSTRACT OF THE DISCLOSURE

Enhanced reception of transmitted signals in a communication system is achieved by synchronously combining transmissions from a cluster of transmitters at a distant receiver. The transmitters coordinate transmissions such that each substantially simultaneously transmits the same signal on the same communication channel. As a consequence of the spatial diversity of the transmitters, the transmitted signals arrive at the receiver at different times. The receiver essentially treats the different transmitted signals as though they were different multipath signals from a single transmitter. A multipath equalizer or combiner is used to determine timing offsets among the received signals, and the received signals are time aligned by phase rotating the signals in accordance with the estimated timing offsets. The time-aligned signals are then coherently combined and detected. The combined signal has a greater signal-to-noise ratio than the individual received signals, permitting detection at a greater range or with a lower bit error rate.

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